

**REMARKS**

The present Amendment After Final is in response to the Final Office Action mailed January 3, 2007, in the above-identified application. Enclosed herewith is a Petition requesting a two-month extension of time for resetting the deadline for responding to the Final Office Action from April 3, 2007, to and including June 3, 2007.

As an initial matter, Applicants acknowledge and appreciate the Examiner's willingness to conduct a telephone interview to discuss the Final Office Action on May 29, 2007. During the telephone interview, the Examiner, the undersigned and William DiBianca, (Registration No.: 58,653) discussed the Final Office Action, the three prior art references cited by the Examiner in the Final Office Action, the limitations found in the claims of the present application, and Applicants remarks regarding why independent claim 21 is unobvious over the prior art cited by the Examiner.

In the Final Office Action, the Examiner rejected claims 21-24 and 26-30 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,370,697 to Baumgartner, in view of U.S. Patent No. 4,759,769 to Hedman et al. and U.S. Patent No. 5,926,685 to Krebs et al. As will be discussed in more detail below, Applicants respectfully assert that independent claim 21 has at least three limitations that make the claim patentable over the prior art cited by the Examiner. The first patentable limitation is that at least one of the exterior surfaces of the spacer body has a "groove disposed therein." The second patentable limitation is that the vertebral body contact element has a perimeter "disposed within said groove to thereby aid in securely attaching said vertebral body contact element to said first exterior surface or said second exterior surface." The third patentable limitation is "a coating being disposed within said groove and about said at

least a portion of said perimeter of said vertebral body contact element, said coating attaching said vertebral body contact element to said first or second exterior surface."

Referring to FIG. 5 thereof, Baumgartner discloses an artificial intervertebral disc member including an upper support 2 having a flat exterior surface. A metal lattice 44 has a central portion that conforms to the vertebral surface 42 of a vertebral body. The Baumgartner specification is unclear regarding how the metal lattice 44 is actually attached to the flat exterior surface of the upper support 2. As shown in FIG. 5, the perimeter of the metal lattice 44 is not in contact with the flat exterior surface of the upper support 2.

Hedman teaches providing grooves 34, 52 (FIG. 1) on the interior surfaces of upper and lower members 26, 28, respectively. Coil springs 72 are placed within the grooves 34, 52 for counteracting compressive forces. Hedman provides no teaching or suggestion that the grooves 34, 52 should be provided on the exterior surfaces of the upper and lower members 26, 28. Hedman actually teaches other means for securing the artificial spinal disk to the vertebrae. Specifically, Hedman teaches using tabs 46, 64 having screw holes through which screws may be placed for securing the upper and lower members 26, 28 to vertebrae. One skilled in the art, upon reviewing Hedman, would have no motivation to place the grooves 34, 52 on the exterior surfaces of the plates. The grooves in Hedman must be opposing, internal grooves in order to retain the upper and lower ends of the coil springs. If Hedman's grooves were not internal grooves, at least one end of the coil springs would be unsecured.

Krebs teaches (FIGS. 1 and 2) providing a mold assembly 10 including a mold cavity 20 having an inlet 24. During use, metallic particles 24 and gelatin 26 are mixed together and introduced into the mold cavity 20 so that the

mixture substantially and entirely fills the mold cavity about the entire outer surface of acetabular cup 1. Thus, Krebs teaches placing the gelatin 26 over the entire exterior surface of the acetabular cup 1 to form a shell 28 that completely covers the acetabular cup 1. This teaching is contrary to what is recited in independent claim 21 of the present application, which requires "a coating being disposed within said groove and about said at least a portion of said perimeter of said vertebral body contact element, said coating attaching said vertebral body contact element to said first and second exterior surface." Thus, Krebs teaches placing the gelatin 26 over the entire surface of the acetabular cup and not in the groove and on the perimeter of the vertebral body contact element disposed in the groove, as required by independent claim 21 of the present application. In addition, Krebs does not teach placing the gelatin in only a groove that receives the perimeter of the vertebral body contact element.

Independent claim 21 is unobvious over the prior art because none of the references teaches or suggests an intervertebral spacer comprising a spacer body with a first exterior surface and a second exterior surface with "at least one of said first exterior surface and said second exterior surface having a groove disposed therein." Clearly, Baumgartner neither teaches nor suggests forming a groove in the flat exterior surfaces of the respective upper and lower supports 2, 3. These deficiencies are not overcome by Hedman or Krebs.

Independent claim 21 is also unobvious because the prior art neither discloses nor suggests an intervertebral spacer including a vertebral body contact element "having a perimeter and a central portion, wherein at least a portion of said perimeter of said vertebral body contact element is disposed within said groove." As shown in FIG. 5, Baumgartner

does not have a groove formed in the flat exterior surface of the upper member 2. Moreover, Baumgartner teaches that the perimeter of the metal lattice 44 is spaced from and not attached to the exterior surface of the upper member 2. Even assuming arguendo that one were motivated to provide grooves on the exterior surface of Baumgartner's plates, Baumgartner provides no teaching or suggestion that the peripheral edges of the metal lattice 44 are placed in the grooves or that a coating is disposed within the groove for attaching the metal lattice to the exterior surface of the upper support 2.

Independent claim 21 is also patentable over the prior art because none of the references discloses or suggests an intervertebral spacer including "a coating being disposed within said groove and about said at least a portion of said perimeter of said vertebral body contact element, said coating attaching said vertebral body contact element to said first or second exterior surface." Referring to FIG. 5, Baumgartner does not teach providing a groove in the exterior surface of the upper support 2. In addition, Baumgartner teaches that the perimeter of the metal lattice 44 is spaced from and not attached to the exterior surface of the upper member 2. Baumgartner also does not teach or suggest using a coating disposed within the groove and about the perimeter of the vertebral body contact element to attach the vertebral body contact element to the exterior surface of one of the upper and lower members.

In sum, Baumgartner does not teach any of the following features recited in independent claim 21: 1) providing a groove in the exterior surface, 2) disposing the perimeter of the metal lattice 44 within the groove, or 3) providing a coating within the groove and about the perimeter of the metal lattice to attach the metal lattice to the exterior surface of the upper support 2. These deficiencies are not overcome by Hedman, which teaches providing opposing, interior

grooves for retaining the opposite ends of coil springs, but does not teach placing the perimeter of a vertebral body contact element in the groove or providing a coating in the groove and over the perimeter of the vertebral body contact element for securing the vertebral body contact element to the exterior surface of the plate. Finally, Krebs teaches providing a gelatin 26 over the entire surface of an acetabular cup 1, and not within a groove and about the perimeter of a vertebral body contact element disposed within the groove. For all of these reasons, Applicants respectfully assert that independent claim 21 is patentable over the prior art references cited by the Examiner, and is otherwise allowable. Claims 22-30 are allowable, *inter alia*, by virtue of their dependence from claim 21, which is allowable for the reasons set forth above.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

If, however, for any reason the Examiner does not believe that such action can be taken at this time, it is respectfully requested that he telephone Applicants' attorney at (908) 654-5000 in order to overcome any additional objections which he might have.

If there are any additional charges in connection with this requested Amendment After Final, the Examiner is authorized to charge Deposit Account No. 12-1095 therefor.

Application No.: 10/642,529

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Respectfully submitted,

By Michael J. Doherty

Michael J. Doherty

Registration No.: 40,592

LERNER, DAVID, LITTENBERG,

KRUMHOLZ & MENTLIK, LLP

600 South Avenue West

Westfield, New Jersey 07090

(908) 654-5000

Attorney for Applicants

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